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Monthly Report, August 1973

E73-11009

Contract Number: NAS 9-13303

CR-133802

Quantitative Determination of Stratospheric Aerosol Characteristics

The first data acquisition occurred on August 11, 1973. A review of the voice log transcripts made it unclear what actually happened. We are anxious to see the data. We anticipate a second acquisition on this SL3 mission.

Analytic software development continued as planned in August. Slant path inversion using iterative techniques was developed for the case of 180° backscatter. The more general case of less than 180° backscatter, i.e., the beta angle not zero, is more complicated and will require further work. However, the 180° case approximates the case of the acquired data and will suffice for a first analysis of the data. The Rayleigh atmosphere has been coded for a slant path scattering and attenuation. This will enable the subtraction of Rayleigh effects before application of the iterative slant path inversion mentioned above. Thus a profile of the Mie aerosol component viewed on the horizon can be obtained immediately, independent of further reduction software. The conversion of film densities as read by the microdensitometer to intensity units has also been coded.

For the month of September we anticipate that the above mentioned codes will be tested and debugged. The slant path inversion will be coded, tested, and debugged. This inversion routine will also need to be modified to accurately represent non 180° scatter. John Potter will also attempt to keep abreast of developments at JSC to accurately calibrate S190 film exposures and densities with respect to absolute intensity units. The simulated data tape has not yet been read; we will continue our efforts to obtain ERIP software already used to read the tapes.

(E73-11009) QUANTITATIVE DETERMINATION OF
STRATOSPHERIC AEROSOL CHARACTERISTICS
Monthly Report, Aug. 1973 (Boeing Co.,
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